

## REMARKS

In an Office Action mailed on January 22, 2010, claims 1, 8, 49 and 56 were rejected under 35 U.S.C. § 102(b) as being anticipated by Liu; claims 15-21, 28, 29, 31 and 63-69 were rejected under 35 U.S.C. § 102(b) as being anticipated by, or in the alternative, 35 U.S.C. § 103(a) as being obvious, in view of Liu; claims 2-7, 9-12, 50-55 and 57-60 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Liu in view of Brooks; claims 14-21, 28-31 and 62-69 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Liu; and claims 22 and 70 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Liu in view of Vaynshteyn.

The specification has been amended to overcome the corresponding objection.

Regarding the § 102 rejection of independent claim 1 in view of Liu, in order to anticipate a claim under 35 U.S.C. § 102, a single reference must teach each and every element of the claim. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). In fact, "[t]he identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989). Furthermore, in order for a reference to be anticipatory, "[its] elements must be arranged as required by the claim." *In re Bond*, 910 F.2d 831 (Fed. Cir. 1990), *cited in* M.P.E.P. § 2131.

According to an embodiment, a detonator assembly comprises a capacitor and an initiator electrically connected to the capacitor. The initiator is bonded or fused to the capacitor. A transformer is mechanically and electrically connected to the capacitor. An addressable chip is mechanically and electrically connected to the transformer. The capacitor, initiator, transformer, and addressable chip form a unified integrated detonating unit adapted to respond to a command communicated from a remote source to activate an explosive.

Liu discloses a detonating system, which includes a blasting machine 32 that is located at the surface of the well and a detonator 42, which is disposed in the well. In Column 7, lines 44-48 Liu states that "In use, an electrical signal originating at blasting machine 32 is delivered along wireline 30 to detonator 42. When detonator 42 is set off, it in turn sets off cord 40 which detonates charges 38." Further, in column 9, lines 44-47 Liu states that "Blasting machine 32, located at the far end of wireline 30 from detonator 42, is illustrated in electrical schematic form in FIGS. 5, 6, 7, and 8. It supplies electric current to fire detonator 42..."

As conceded by the Examiner, the § 102 rejection is based on a combination of components from both Liu's surface-disposed blasting machine 32 and downhole detonator 42. *See, for example*, Office Action, pp. 2 and 3. The Examiner contends that the blasting unit 32 is connected to the downhole detonator 42 by way of wires 30 and 40 and as such, the Examiner contends that these components are integrated together to form a detonating unit in the context of that recited in Claim 1. Office Action, p. 10.

As noted above, to more clearly differentiate over the cited art, claim 1 is amended and now defines a combination of features including that the unified integrated detonating unit is adapted to respond to a command that is communicated from a **remote source** to activate an explosive.

As relied upon in the Office action, Liu fail to disclose such combination of features at least because the blasting machine 30 (uphole) transmits a signal to the detonator 42 (downhole) and therefore cannot together disclose a **unified** integrated detonating unit that is adapted to respond to a command communicated from a remote source to activate an explosive, as recited in Claim 1 in combination with other features. For example, the electric signal in Liu originates at the blasting machine 30 and is transmitted to the downhole detonator 42. Further, as relied upon in the Office action, Liu discloses that the blasting machine 32 is, "located at the far end of wireline 30 from detonator 42." Liu, 9:44-46.

For at least those reasons, it is requested that the rejection of Claim 1 in view of Liu be withdrawn.

Although claim 1 has not been officially rejected under § 103, the Examiner states that it would have been purportedly obvious to one of ordinary skill in the art to integrate the surface and downhole components of Liu's system to derive the claimed invention. Office Action, p. 10. In support of this argument, the Examiner cites relatively old case law for a *per se* rule of obviousness, which holds that integrating components together only purportedly involves routine skill in the art. However, contrary to the position that is taken by the Examiner, the Federal Circuit has recently held that there are no *per se* rules of obviousness. *In re Ochiai*, 37 USPQ 2d., 1127, 1133 (Fed. Cir. 1995) (holding no *per se* rules of obviousness have been established by precedent and reliance on any such rules that eliminate need for fact-specific analysis of claims and prior is legally incorrect). More specifically, in *In re Ochiai*, the Federal Circuit held:

The use of *per se* rules, while undoubtedly less laborious than a searching comparison of the claimed invention - including all its limitations - with the teachings of the prior art,

flouts section 103 and the fundamental case law applying it. *Per se* rules that eliminate the need for fact-specific analysis of claims and prior art may be administratively convenient for PTO examiners and the Board. Indeed, they have been sanctioned by the Board as well. But reliance on *per se* rules of obviousness is legally incorrect and must cease. As such administrative convenience is simply inconsistent with section 103, which, according to *Graham* and its progeny, entitles an applicant to issuance of an otherwise proper patent unless the PTO establishes that the invention *as claimed* in the application is obvious over cited prior art, based on the specific comparison of that prior with claim limitations.

*In re Ochiai*, 37 USPQ 2d. 1127, 1133 (Fed. Cir. 1995).

Therefore, a *per se* rule of obviousness, such as the one recited in the Office Action, cannot be relied on to sustain a case of obviousness. Moreover, a § 103 rejection of claim 1 would require an additional change of causing the firing head 88 to receive a command that is communicated from a remote source. The Examiner has not identified a plausible reason that would have prompted a person of ordinary skill in the art to integrate Liu's components together or form a unified integrated detonating unit that is adapted to respond to a command communicated from a remote source, contrary to the holding of *KSR International Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741, 82 U.S.P.Q.2d 1385 (2007).

Thus, for at least the foregoing reasons, Applicant respectfully submits that amended independent claim 1 is neither anticipated nor rendered obvious by Liu.

For similar reasons, the detonator assembly of independent claim 49 overcomes the § 102 rejection in view of Liu, as Liu fails to disclose or render obvious the combination of features that are now recited in amended independent claim 49, such as a capacitor, initiator, transformer and addressable chip that form a unified integrated detonating unit that is adapted to respond to a command, which is communicated from a remote source to activate an explosive.

Dependent claims 2-31 and 50-70 and newly-added claims 71-78 are patentable for at least the reason that these claims depend from allowable claims.

### CONCLUSION

In view of the foregoing, Applicant respectfully requests withdrawal of the §§ 102 and 103 rejections and a favorable action in the form of a Notice of Allowance. The Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 20-1504 (SHL.0296US).

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Diana M. Sangalli', written over a horizontal line.

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